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Proton source for Silicon detector tests DAVID HARRISON, University of Manitoba, MARK ABOTOSSAWAY, JOSH BOULDING, University of Winnipeg, MICHAEL GERRICKE, University of Manitoba, JEFF MARTIN, University of Winnipeg, PETER MCCOWAN, KUMAR SHARMA, University of Manitoba — In neutron beta decay a neutron decays through the weak force into an electron, proton and antineutrino. The detection of the decay protons is an important aspect of certain neutron beta decay experiments. One particular experiment of this type is the Nab experiment. In the Nab experiment decay protons are electrostatically accelerated to 30keV in a flat magnetic field region of a magnetic spectrometer before striking silicon detectors. To calibrate the silicon detectors for such experiments a low intensity proton accelerator is being designed and built at the University of Manitoba. Progress in proton source and accelerator development will be discussed. The results of the silicon detector tests would be important for experiments detecting post-accelerated recoil protons using silicon detector technology.

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